

From: Don.Essig@deg.idaho.gov
To: cnie461@ECY.WA.GOV; Kissinger.Lon@epamail.epa.gov
Cc: Macchio.Lisa@epamail.epa.gov; Szelag.Matthew@epamail.epa.gov
Subject: RE: Risk Tradeoffs in Fish Consumption
Date: Monday, November 19, 2012 2:22:20 PM

Regarding “the differences between fish advisories and WQ criteria”. Some of the water quality criteria are lower than the advisory action level at present, so we can get to a WQ impairment before we get to a FCA. That kind of disjoint feeds the notion among some that government is broken. This is likely to worsen with an increase in the FCR used to develop criteria as the number and degree to which water quality criteria are lower than advisory action levels increases, unless maybe the FCA action levels come down commensurately, but then we really exacerbate the risk tradeoff in the article.

From: Niemi, Cheryl (ECY) [<mailto:cnie461@ECY.WA.GOV>]
Sent: Monday, November 19, 2012 12:47 PM
To: Don Essig; Kissinger.Lon@epamail.epa.gov
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Subject: RE: Risk Tradeoffs in Fish Consumption

Matt – will forward you the paper so you can look at it.

I agree that the trade-off on risk is important to discuss – I think our DOH walks that line all the time with their communication that “fish is a good food” and pairing that message with fish advisories around the state. It is unfortunate that people might not actually pay attention to the language of the advisories – a premise of the analysis in the paper. Maybe part of the messages we should give when we talk about fish advisories and criteria is that “advisories are specific, and applying them incorrectly they could be a cause of increased harm.” Would need to work with our DOH, however, before giving that type of public health message – to make sure it is accurate and reflects the messages they want to convey.

The main message I got from the paper is that we need to be very clear when we talk about the differences between fish advisories and WQ criteria. If we get to the point where we need a fish advisory, then (1) the WQS and criteria (or implementation of the criteria), or (2) lack of control of sources beyond the control of the CWA (e.g., atmospheric deposition of Hg in some areas) have failed to protect the use.

Regarding multiple contaminants (but not trade-offs of risk): An option that we will at least mention (and have already mentioned) – when we talk about risk - is using additive risk for a discharge or waterbody. Similar to clean-up. An option might be to use 10^{-6} for individual chemicals and 10^{-5} for the waterbody or discharge. Not sure how it would work, or whether people will be interested in pursuing that idea, but at least a point of discussion that gets us talking about multiple contaminants and/or additivity, etc... . Translating that approach over to non-cancer effects would be harder. Lon – does clean-up have a way of looking at combined effects for non-carcinogens with similar modes of action or end-points? TEFs?

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From: Don.Essig@deq.idaho.gov [<mailto:Don.Essig@deq.idaho.gov>]
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To: Kissinger.Lon@epamail.epa.gov
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Subject: RE: Risk Tradeoffs in Fish Consumption

Exactly my point is saying "each contaminant reduced adds benefit to the left". Rarely if ever are we faced with one contaminant, or one source. Yet typically we regulate pollutant by pollutant and source by source. What a conundrum.

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Subject: RE: Risk Tradeoffs in Fish Consumption

What's also interesting to me, and a counter point to some of the "conservative" assumptions identified in the NCASI paper, is that the AWQC don't consider the cumulative effects of multiple contaminants.

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▼ ---11/16/2012 12:48:30 PM--- "Environmental/regulatory agencies have a chance to stop chemicals from ever becomin

From: <Don.Essig@deq.idaho.gov>
To: Lon Kissinger/R10/USEPA/US@EPA
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Date: 11/16/2012 12:48 PM
Subject: RE: Risk Tradeoffs in Fish Consumption

“Environmental/regulatory agencies have a chance to stop chemicals from ever becoming environmental contaminants or removing them from the environment”

Depending on source, yes. It also occurs to me that the balance shifts as you consider that there are potentially many more contaminants delivered by the fish than just the one someone is analyzing. Looking at the author's balance diagram (last page) each contaminant reduced adds benefit to the left (not all of the same nature, but benefit none-the-less) whereas the cost of increased risk of cardiovascular disease or the right side (and other perhaps quantified costs) is singular, it comes from not eating enough fish and does not change with the number or concentration of contaminants in the fish.

Still I think it is an interesting and relevant examination of how we quantify risk, how the public perceives and responds to that, and the need perhaps change our communication of the risk. I think this statement on page 21 is rather telling “consumers seem to be more alert to the possible harms of toxicants than to the possible harms of malnutrition” That of course speaks to a tradeoff in health, but I think that perhaps there are even broader tradeoffs, across environmental media and programs for starters, but even beyond that.

Don E.

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Sent: Friday, November 16, 2012 1:28 PM
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Subject: Re: Risk Tradeoffs in Fish Consumption

I think something to remember is that health and food safety agencies deal with contaminants that are already in food. Environmental/regulatory agencies have a chance to stop chemicals from ever becoming environmental contaminants or removing them from the environment.

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▼ ---11/16/2012 11:56:48 AM---Interesting article hot off the presses. Makes the point that mercury fish consumption advisories th

From: <Don.Essig@deg.idaho.gov>
To: Lisa Macchio/R10/USEPA/US@EPA, Lon Kissinger/R10/USEPA/US@EPA, <cnie461@ecy.wa.gov>
Date: 11/16/2012 11:56 AM
Subject: Risk Tradeoffs in Fish Consumption

Interesting article hot off the presses.

Makes the point that mercury fish consumption advisories that are targeted at pregnant women provide quantifiable health benefits in the form of increased IQ of their children that the authors actually monetize as amounting to \$386 million a year. BUT, if these advisories also cause some in the non-target population all of us that are not pregnant women, to eat less fish then health costs associated with cardiovascular disease increase. The authors calculate that if only 0.6% of the population aged 40+ reduced their fish intake by one meal per week the benefits of increased IQ would be completely offset by increased cardiovascular disease.

Although the tradeoffs undoubtedly vary with contaminant I think is relevant to Idaho's consideration of new fish consumption rates on which to base human health criteria as it points out the risks are not one-sided even though that is how we typically calculate them.

[attachment "Risk Tradeoffs in Fish Consumption.pdf" deleted by Lon Kissinger/R10/USEPA/US]